

On the Reduction of Nickel Ferrite by Graphite

SOV/20-123-1-22/56

3.517 - 3.520 Å. Later, the parameter of the lattice of the metallic phase increases, which enlightens the increasing iron content in the nickel. The dependence of the mentioned lattice parameter of the metallic phase upon the oxygen content in the solid phase is given in figure 2. The parameter is maintained on further reduction up to 50% of the reduction and then increases again. The maximum of 3.581 Å is reached at 70%. The reduction mechanism of nickel ferrite by graphite in vacuo is determined both by the ion diffusion in the surface layer and by the steric ion diffusion in the depth of the crystal lattice. This mechanism differs from the reduction by gases (f.i. by hydrogen at 400°), in which the steric diffusion is without importance and where the lattice transformation is mainly achieved by the superficial ion diffusion. There are 3 figures and 2 references, 1 of which is Soviet.

ASSOCIATION: Institut metallurgii Ural'skogo filiala Akademii nauk SSSR  
Card 3/4 (Institute of Metallurgy of the Ural Branch of the Academy of Sciences, USSR)

5 (1)

AUTHORS: Zhuravleva, M. G., Bogoslovskiy, V. N., SOV/20-126-3-46/69  
Chufarov, G. I., Corresponding Member AS USSR

TITLE: The Effect of Potassium and Sodium Carbonates on the Reduction of Nickel and Cobalt Ferrites by Graphite  
( Vliyaniye uglekislykh soley kaliya i natriya na vosstanovleniye ferritov nikelya i kobal'ta grafitom)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3,  
pp 623-625 (USSR)

ABSTRACT: The authors used "achesonovskiy" [Abstracter's Note: Acheson's ?] graphite which was vacuum-annealed at 1100° as a reducing agent for the ferrites mentioned in the title. Its quantity was in every test 3 times the quantity necessary for reduction to the metal. The admixtures of the two carbonates amounted to 1 % of the ferrite weight. A vacuum in the order of magnitude of  $10^{-3}$  mm mercury column was maintained in the reaction area. Figure 1 represents graphically the test results which show that the mentioned salts speed up the reduction referred to:  $K_2CO_3$  by 100 fold for nickel ferrite, and by several dozens for cobalt ferrite. The efficiency of  $Na_2CO_3$

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is much lower (Figs 1a and 1b). The influence of the admixtures is not restricted to a simple acceleration - they also may change the character of the process (Ref 3). X-ray structure investigations of the solid phase have shown that, in the nickel reduction by graphite, metallic nickel is formed in the first stage, while the initial ferrite approaches the magnetite. In further reduction, the metallic phase is enriched by iron (Fig 2). The authors carried out an X-ray structure analysis of the solid products of a nickel-ferrite reduction by graphite with an addition of 1%  $K_2CO_3$ . It was found that in this case the reduction product is a solid solution Ni-Fe with a variable concentration. The phase with a lattice of the spinel type, i.e. ferrite, is present until the 71 % reduction is finished. At a 51 % reduction, a phase with a lattice of the NaCl type appears for the first time. It corresponds to the solid solutions  $Fe_{1-x}Ni_xO$ . Figure 2, however, shows that the lattice parameter is higher at the reduction with admixtures. This points to a higher iron content, and proves that the rate of spatial diffusion of the ions in

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the solid phase is inferior to the rate of oxygen extraction by the reducing substance. In the case of graphite, it is the gaseous carbon oxide. The present experimental material renders possible some suppositions on the possible mechanism of influence of the mentioned admixtures (Refs 3, 5, 6). Their introduction changes the reactivity of the oxides and ferrites, i.e. it changes the rate of the process. There are 2 figures and 7 Soviet references.

ASSOCIATION: Institut metallurgii Ural'skogo filiala Akademii nauk SSSR  
(Institute of Metallurgy of the Ural Branch of the Academy of Sciences, USSR)

SUBMITTED: March 16, 1959

Card 3/3

ACCESSION NR: AP4039618

S/0076/64/038/005/1135/1141

AUTHOR: Shchepetkin, A. A. (Sverdlovsk); Stafeyeva, N. M. (Sverdlovsk);  
Bogoslovskiy, V. N. (Sverdlovsk); Zhuravleva, M. G. (Sverdlovsk); Chufarov, O. I.  
(Sverdlovsk)

TITLE: Study of equilibrium conditions during the reduction of magnesium-manganese  
ferrites

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 5, 1964, 1135-1141

TOPIC TAGS: magnesium-magnetite ferrite, ferrite dissociation, ferrite reduction,  
equilibrium oxygen pressure, ferrite crystalline structure, spinel phase, magne-  
sioferrite, magnetite

ABSTRACT: The equilibrium oxygen pressure during the dissociation of magnesium-  
manganese ferrites (I) of the composition  $Mg_cMn_{1-c}Fe_2O_4$  ( $c = 0.1$  to  $1.0$ ) have been  
determined and some peculiarities of the crystalline structure of I of various  
compositions have been studied. This work was done because such data are helpful  
for the preparation of ferrites and the understanding of changes occurring in  
service. The equilibrium conditions in the reduction of I were determined in a  
closed vacuum apparatus with a circulating  $H_2 + H_2O$  mixture. The equilibrium

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ACCESSION NR: AP4039618

oxygen pressure was calculated from the formula  $p_{O_2}^{\frac{1}{2}} = K_p K_{H_2O}$ , where  $K_p$  is the  $H_2O/H_2$  pressure ratio in an equilibrium gas mixture and  $K_{H_2O}$  is the equilibrium constant of the water vapor dissociation. X-ray analysis of I and of their reduction products was carried out by the Debye method. It was shown that the oxygen pressure remains almost constant ( $10^{-13}$  atm) with an increase of the magnesioferrite content in the solid solution from 0 to 50 mol. %; the pressure increased sharply (to  $10^{-11}$  atm) with an increase of the magnesioferrite content from 50 to 100 mol. %. The oxygen pressure dropped sharply in the course of the reduction of I by hydrogen. X-ray analysis of the solid phases formed during the reduction revealed a correlation between the oxygen pressure and the chemical characteristics of the crystals (magnesium ion fraction in the tetrahedral lattice nodes) of I. It was shown, in particular, that during the reduction the equilibrium oxygen pressure drops with a decrease in the magnesioferrite content and an increase in the magnetite content in the spinel phase and approaches, at 33% reduction, the dissociation pressure of magnetite. Orig. art. has 7 figures.

ASSOCIATION: Institut metallurgii Ural'skogo filiala AN SSSR (Institute of Metallurgy, Ural Branch, AN SSSR)

Card 2/3

ACCESSION NR: AP4039618

SUBMITTED: 03May63

DATE ACQ: 19Jun64

SUB CODE: GC, GP

NO REF Sov: 004

ENCL: 00

CTHER: 014

Card 3/3

ACCESSION NR: AP4042598

S/0076/64/038/007/1811/1815

AUTHOR: Braynina, D. Z. (Sverdlovsk); Averbukh, B. D. (Sverdlovsk);  
Zhuravleva, M. G. (Sverdlovsk); Chufarov, G. I. (Sverdlovsk).

TITLE: Equilibrium conditions in the hydrogen reduction of  
manganese-zinc ferrites

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 7, 1964, 1811-1815

TOPIC TAGS: manganese ferrite, zinc ferrite, manganese zinc ferrite,  
ferrite reduction, ferrite dissociation, ferrite crystal structure,  
spinel structure, inverse spinel structure

ABSTRACT: Equilibrium conditions at 700 to 900°C for the initial  
stages of hydrogen reduction of manganese-zinc ferrites of varying  
composition are investigated. The equilibrium constants were  
determined experimentally and the equilibrium partial pressures of  
oxygen following dissociation of the ferrites were calculated. The  
lattice constants were measured. It was shown that both the equilib-  
rium partial pressure of oxygen and the lattice constants of manganese-  
zinc ferrites depend in a nonlinear manner on the composition. It

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ACCESSION NR: AP4042598

was found that the dissociation pressure of  $Mn_xZn_{1-x}Fe_2O_4$  increases at first from the x value corresponding to a zinc ferrite to a maximum with a 70% zinc ferrite content, then drops to the x value for  $MnFe_2O_4$ . The change in the constants of the crystal lattices of the solid solutions agrees with the fact that manganese ferrite is inverted by about 20%. Orig. art. has: 5 figures, 1 table, and 2 formulas.

ASSOCIATION: Institut metallurgii (Institute of Metallurgy) et al.

SUBMITTED: 11Oct63

ENCL: 00

SUB CODE: MM, SS

NO REF SOV: 005

OTHER: 013

Card 2/2

MEN', A.N.; STAFYEVA, N.M.; BOGOSLOVSKIY, V.N.; ZHURAVLEVA, M.G.;  
CHUFAROV, G.I.

Thermodynamic analysis of equilibrium in the dissociation  
of ferrites. Dokl. AN SSSR 156 no. 4:912-915 Je '64.  
(MIRA 17:6)

1. Institut metallurgii, Sverdlovsk. 2. Chlen-korrespondent  
AN SSSR (for Chufarov).

L 63763-65 EMT(?) JD/JW

10/00/0105/103 CCI 0144/0145

ACCESSION NR: AP5016068

AUTHOR: Zhuravleva, N. G.; A. G. Chuprov, G. V. (co-inventing member: All  
SSSR)

TITLE: Investigation of spinel type solid solutions from the viewpoint of sta-  
tistical thermodynamics.

SOURCE: AN SSSR. Doklady, v. 163, no. 1, 1965, 144-146

TOPIC TAGS: statistical thermodynamics, spinel type solid solution, phase compo-  
sition, effective equilibrium oxygen pressure, component activity, solid phase  
composition, configurational mixing entropy, internal mixing energy

ABSTRACT: This work is a continuation of a previous investigation with the differ-  
ence that the statistical method of calculating the activities of components is  
used. The results obtained are found to be in complete very agreement with

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L 63763-65  
 ACCESSION NO: AP5011088

$$\Delta S = -R(\lambda_1 \ln \lambda_1 + \lambda_2 \ln \lambda_2 + (1 - \lambda_1 - \lambda_2) \ln (1 - \lambda_1 - \lambda_2) - (c_1 - \lambda_1) \ln (c_1 - \lambda_1) - (c_2 - \lambda_2) \ln (c_2 - \lambda_2) - ((1 - \lambda_1 - \lambda_2) - c_1(\lambda_1^2 \ln \lambda_1^2 + 2(1 - \lambda_1^2) \ln (1 - \lambda_1^2) + (1 - \lambda_1^2)^2 \ln (1 - \lambda_1^2) + \lambda_1^2)) - c_2(\lambda_2^2 \ln \lambda_2^2 + 2(1 - \lambda_2^2) \ln (1 - \lambda_2^2) + (1 + \lambda_2^2) \ln (1 + \lambda_2^2)))$$

$$\Delta U = N\sigma \delta \alpha$$

where  $\sigma = v/kT$ ,  $N$  is the Avogadro number, and  $v$  is the sum of the energies of paired interactions between cations spaced at a distance not exceeding the distance between tetrastodes of the opal, the author derive a formula for

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L 63763-55

ACCESSION NR: AP501803B

tion of the solid phases in an equilibrium. Orig. Oct. 1964. 3 figures, 9 formulas.

ASSOCIATION: Institut metallurgie, Brno (Czechoslovakia) Institute)

SUBMITTED: 28 Dec 64

FILED: 00

SUB CODE: SS TD

NO REF Sov: 004

CISTER: 002

SHCHEPETKIN, A.A.; STAFYEVA, N.M.; BOGOSLOVSKIY, V.N.; ZHURAVLEVA, M.G.;  
CHUFAROV, G.I.

Equilibrium conditions in the reduction of magnesium-manganese  
ferrites. Zhur. fiz. khim. 38 no.5:1135-1141 My '64.  
(MIRA 18:12)

I. Institut metallurgii Ural'skogo filiala AN SSSR. Submitted  
May 3, 1963.

L 62566-62

ACCESSION NR: AP5019167

11/6/2001/CD/C07/002/0052

AUTHORS: Yatsykevich, K.; Zhuravleva, M.; Olszova, L.

TITLE: Pine chips for egg packing

SOURCE: Sovetskaya potrebительская кооператива, no. 7, 1935, 63

TOPIC TAGS: food, food preservation, packing material

ABSTRACT: Experiments performed on packing eggs in pine chips are described, and the results are compared to those of standard packing in fir or spruce shavings. Grade I hen eggs boxed in pine chips were kept in a warehouse at 12-17°C and 55% humidity of 74-94%, transported by train (4 days) at 13.5-16.5°C and 78-100% humidity, and kept in coolers (0.7-3.2°C and humidity 78-92%) for over five months. Egg quality was checked ovo scopically and organoleptically every 10th day in the warehouse and every 30th day in the cooler. The intracooler procedure was also observed. It was noted that aging proceeded slower in pine chips, and that nutritive and technical waste was smaller. The number of grade I eggs prepared all at the end of the 5-month period (stored both in the warehouse and in coolers) increased by 9.4%, as compared with those packed in fir and spruce chips. After 5 months the eggs were marked as grade II. Sharp pine smell of the chips was reduced by drying them before

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I 62566-65  
ACCESSION NR: AP5049167

use. After 10 days egg shells acquired a slight pine odor which did not penetrate the interior and which disappeared after one month of storage. In general, the taste and the smell of eggs preserved in pine chips were similar to those of eggs packed in standard spruce and fir shavings.

ASSOCIATION: none

SUBMITTED: 00

ENCL: QU

SUB CODE: L

NO REF Sov: 000

OTHER: 000

b7c  
Card 2/2

BRAYNINA, D.Z.; AVEREUKH, B.D.; ZHURAVLEVA, M.G.; CHUFAROV, G.I.

Equilibrium conditions in the reduction of manganese-zinc ferrites by hydrogen. Zhur. fiz. khim. 38 no.7:1811-1815 Jl '64.

(MIRA 18:3)

1. Institut metallurgii, Sverdlovsk.

MEN', A.N.; STAFYEVA, N.M.; BOGOSLOVSKIY, V.N.; ZHURAVLEVA, M.G.; CHUFAROV,  
G.I.

Determination of the concentration dependence of some thermodynamic  
functions of solid ferrite solutions. Dokl. AN SSSR 157 no.6:1441-  
1444 Ag '64. (MIRA 17:9)

1. Institut metallurgii, Sverdlovsk. 2. Chlen-korrespondent AN  
SSSR (for Chufarov).

L 27064-65 ESD-2/11/T(1)/B/T(n)/SHP(1)/S/ESD(1)  
ESD(dp) JD  
ACCESSION NR: AP4044868

S/0020/64 157/307/1441/1444

AUTHOR: Merz, A. N.; Stafejeva, N. M. [Bogoslovskaya]; Zhuravleva, M. G.  
Chufarov, G. I. (Corresponding member AM SSSR)

TITLE: Concerning the determination of the concentration dependence of some thermodynamic functions of solid solution of ferrites

SOURCE: AN SSSR. Doklady, v. 167, no. 6, 1964, 1011-1114

TOPIC TAGS: thermodynamic function, solid solution, ferrite; concentration dependence, configurational mixture entropy

ABSTRACT: The statistical computation of thermodynamic functions of solid solutions is complicated because of the large number of parameters which charact-

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L 21064-65

ACCESSION NR: AP4044888

tration C with copper magnetite is given as a function of the equilibrium degree  $\lambda$  of inversion of solid solution at a given temperature and also the inversion of copper ferrite at the same temperature. If the function  $\lambda(c)$  is not known, it can be assumed, in the first approximation that  $\lambda = \lambda_{sc}$ . For the calculation of 48 percent the results of previous authors were used. *Fiz. metal. i metalloved.* 48, No. 1, 1951. Orig. art. mag. 3 figures and 1 table.

SUR CODE: TD, MM

NOT JEN Sov: 005

Object: 004

Card 2/2

ZHURAVLEVA, M.G.; MEN', A.N.; CHUFAROV, G.I.

Statistical-thermodynamic aspect of spinel-type solid solutions.  
Dokl. AN SSSR 163 no.1:144-146 J1 '65. (MIRA 18:7)

1. Institut metallurgii, Sverdlovsk.

BRAVNINA, D.Z.; AVERBUKH, B.D.; ZHURAYLEVA, M.G.; CHUFAROV, G.I.

Equilibrium in the reduction of manganese-zinc ferrite by hydrogen.  
Zhur.neorg.khim. 9 no.1:230-231 Ja. '64. (MIRA 17:2)

1. Ural'skiy filial AN SSSR, Institut metallurgii.

STAFYEVA, N.M.; ZHURAVLEVA, M.G.; BOGOSLOVSKIY, V.N.; CHUFAROV, G.I.

Effect of  $\text{Na}_2\text{CO}_3$  and  $\text{K}_2\text{CO}_3$  additions on the reduction of oxides  
and copper ferrites. Zhur. neorg. khim. 9 no.2:447-450 F'64.  
(MIRA 17:2)

SHCHEPETKIN, A.A.; KHROMYKH, L.G.; BOGOSLOVSKIY, V.N.; ZHURAVLEVA, M.G.;  
CHUFAROV, G.I.

Equilibrium conditions during the reduction of magnesium ferrite  
by hydrogen. Dokl. AN SSSR 152 no.1:124-126 8 '63. (MIRA 16:9)

1. Institut metallurgii Ural'skogo filiala AN SSSR. 2. Chlen-  
korrespondent AN SSSR (for Chufarov).

(Magnesium ferrates) (Reduction, Chemical)

ZHURAVLEVA, M.G.; MEN', A.N.; CHUFAROV, G.I.

Determination of the concentration dependence of the activity of components for simple binary oxides. Dokl. AN SSSR 159 no.4: 879-881 D '64 (MIRA 18:1)

1. Institut metallurgii, Sverdlovsk. 2. Chlen-korrespondent AN SSSR (for Chufarov).

STAFYEVA, N.M.; SHCHEPETKIN, A.A.; BOGOSLOVSKIY, V.N.; ZHURAVLEVA, M.G.;  
CHUFAROV, G.I.

Equilibrium conditions in the reduction of ferrite  $Mg_{0.5}Mn_{0.5}Fe_{2O_4}$   
by hydrogen. Dokl. AN SSSR 151 no.2:347-349 J1 '63. (MIRA 16:7)

1. Institut metallurgii Ural'skogo filiala AN SSSR, Sverdlovsk.
2. Chlen-korrespondent AN SSSR (for Chufarov).  
(Ferrites (Magnetic materials)) (Hydrogen)

BOGOSLOVSKIY, V.N.; STARTSEVA, I.Ye.; ZHURAVLEVA, M.G.; SHCHEPETKIN,  
A.A.; CHUFAROV, G.I.; SHUR, Ya.S.

Effect of the phase constitution on the magnetic properties  
of magnesium-manganese ferrites with a rectangular hysteresis  
loop. Fiz. met. i metalloved. 15 no.2:181-186 F '63.  
(MIRA 15:4)

1. Institut metallurgii Ural'skogo filiala Akademii nauk SSSR  
i Institut fiziki metallov AM SSSR.

(Ferrates—Magnetic properties)  
(Hysteresis loop)  
(Phase rule and equilibrium)

	S/126/63/C15/C01/004/033 ED39/2420						
AUTHORS:	Bogoslovskiy, V.N., Startseva, I.Ye., Zhuravleva, M.G. Shchepetkin, A.A., Chufarov, G.I., Shur, N.S.						
TITLE:	The effect of phase composition on the magnetic properties of magnesium-manganese ferrite with a rectangular hysteresis loop						
PERIODICAL:	Fizika metallov i metallovedeniye, v.15, no.2, 1963, 181-186						
TEXT:	A magnesium-manganese ferrite with a rectangular hysteresis loop and with a sufficiently simple composition was used to facilitate the interpretation of the results obtained. Toroidal samples 12 mm outer dia, 8 mm inner dia and 3 mm high were used. After a second annealing in air at 1200°C they were cooled in a CO <sub>2</sub> atmosphere. The composition was Fe <sub>2</sub> O <sub>3</sub> - 42.8 mole%, MgO - 14.4%, MnO - 42.8% (as MnCO <sub>3</sub> ) which corresponds with the formula						
	(MgFe <sub>2</sub> O <sub>4</sub> ) <sub>0.3</sub> (MnFe <sub>2</sub> O <sub>4</sub> ) <sub>0.6</sub> (Mn <sub>3</sub> O <sub>4</sub> ) <sub>0.1</sub>						
	The dependence of the coercive force H <sub>c</sub> , the residual						
Card 1/2							

S/126/63/015/002/004/053  
E039/8420

The effect of phase ...

induction  $B_r$ , the maximum induction  $B_m$ , the induction in the field of 90 Oe  $B_{90}$ , and  $B_r/B_m$  on the pressure of oxygen when annealing at 600°C was investigated.  $B_r$  shows a steady decrease with increasing oxygen pressure up to 150 mm Hg. While for the other parameters there is little change for oxygen pressures above 50 mm. Maximum squareness of the hysteresis loop is obtained at 10 mm pressure of oxygen. A comparison of the results of physicochemical analysis, X-ray and magnetic investigation suggests that the spontaneous rectangularity of the hysteresis loop in this ferrite depends on the presence of the  $Mn^{3+}$  ion which leads to local distortions in the crystal lattice. There are 2 figures.

ASSOCIATIONS: Institut metallurgii UFAN SSSR  
(Institute of Metallurgy UFAN USSR)  
Institut fiziki metallov AN SSSR  
(Institute of Physics of Metals AS USSR)

SUBMITTED: August 10, 1962

Card 2/2

L 12902-63	EMP(c)/ENR(n)/ADS	AMTC/ASD	ID
ACCESSION NR: AP3003555	S/0020/63/15/02/0347/0349	58	57
AUTHORS: Stafeyeva, N. M.; Shchepetil'n, A. A.; Bogoslovskiy, V. N. Zhuravleva, N. G.; Chufarov, G. I. (Corr. member, Academy of Sciences SSSR)			
TITLE: Study of equilibrium condition during hydrogen reduction of ferrite $Mg_{0.5}Mn_{0.5}Fe_2O_4$ 27			
SOURCE: AN SSSR. Doklady v. 151, no. 2, 1963, 347-349			
TOPIC TAGS: equilibrium conditions, hydrogen, hydrogen reduction, ferrite, magnesium ferrite, manganese ferrite, solid phase, lattice, S-ray analysis			
ABSTRACT: Reduction of ferrite $Mg_{0.5}Mn_{0.5}Fe_2O_4$ was studied under equilibrium conditions at 800, 900 and 1000 degrees C. Partial pressure of oxygen during dissociation of the ferrite was calculated. Composition of solid phases existing during the various reduction stages was determined. Ferrite $Mg_{0.5}Mn_{0.5}Fe_2O_4$ is a solid solution of magnesium and manganese ferrites with a 1:1 molar ratio. The original sample was obtained by heating a mixture of the required			
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L 2902-63

ACCESSION NR: AP3003555

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amounts of MgO, MnO and Fe<sub>2</sub>O<sub>3</sub> in CO<sub>2</sub> atmosphere at 1200 degrees for 30 hours. Reduction was carried out in a closed evacuated system through which a mixture of hydrogen and water vapor was circulated until equilibrium was reached. Water vapor was maintained at a pressure equal to that of saturated water vapor at 0 degrees C. Partial pressure of hydrogen in the gaseous equilibrium mixture was determined after freezing out the water vapor in a trap immersed in liquid nitrogen. Partial pressure of oxygen was determined from the values K = P<sub>H<sub>2</sub>O</sub>. Extent of reduction was determined from the hydrogen

P<sub>H<sub>2</sub></sub> consumption. A reduction of 100% was assumed for an oxide having the composition Mg sub .5Mn sub .50. Solid phases existing at equilibrium were subjected to X-ray analysis (Debye method and with a camera with a 57.3mm diameter). Photographs were taken under FeK<sub>α</sub> illumination using a manganese filter. Relationships between partial pressure of oxygen at equilibrium and the extent of reduction of the ferrite Mg sub .5Mn sub .5Fe<sub>2</sub>O<sub>4</sub> at 800, 900 and 1000 degrees C are presented. Relationships between the size of lattices

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L 12902-63

ACCESSION NR: AP3003555

in the three solid phases and the extent of reduction, as well as relationships between the concentration of the various phases and the extent of ferrite reduction are given. Orig. art. has: 3 figures.

ASSOCIATION: Institut metallurgii Ural'skogo filiala Akademii nauk SSSR, Sverdlovsk (Metallurgical Institute, Ural branch, Academy of Sciences, SSSR)

SUBMITTED: 01Apr63

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: CH

NO REF SOV: 004

OTMER: 006

Card 3/3

STAFYEVA, N.M.; BOGOSLOVSKIY, V.N.; SHCHEPETKIN, A.A.; ZHURAVLEVA, M.G.;  
CHUFAROV, G.I.

Equilibrium conditions in the reduction of copper ferrite  
 $CuFe_2O_4$  by hydrogen. Dokl. AN SSSR 146 no.4:874-876 O '62.  
(MIRA 15.11)

1. Institut metallurgii Ural'skogo filiala AN SSSR,
2. Chlen-korrespondent AN SSSR (for Chufarov).  
(Copper ferrate)  
(Hydrogen)

ZHURAVLEVA, M.G.; CHUFAROV, G.I.; KHRONYKH, L.G.

Effect of alkali metal and alkaline earth carbonates on the reduction  
of iron oxides by graphite. Dokl. AN SSSR 135 no.2:385-388 N '60.  
(MIRA 13:11)

1. Institut metallurgii Ural'skogo filiala AN SSSR. 2. Ohlen-  
korrespondent AN SSSR (for Chufarov).  
(Iron oxide) (Graphite) (Alkali metal carbonate)  
(Alkaline earth carbonates)

ZHURAVLEVA, M.G.; BOGOSLOVSKIY, V.N.; CHUFAROV, G.I. (Sverdlovsk)

Effect of potassium and sodium carbonate on the reduction of nickel and cobalt oxides and ferrites by graphite. Zhur. fiz. khim. 34 no.12:2704-2708 D '60. (MIRA 14;1)

1. Ural'skiy filial AN SSSR, Institut metallurgii.  
(Potassium carbonate) (Sodium carbonate)  
(Reduction, Chemical) (Ferrates)

S/076/60/034/012/007/027  
B020/B067

AUTHORS: Zhuravleva, M. G., Bogoslovskiy, V. N., and Chufarov, G. I.

TITLE: Effect of Additions of Potassium and Sodium Carbonate on the Reduction of Oxides and Ferrites of Nickel and Cobalt by Graphite

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 12,  
pp. 2704-2708

TEXT: Nickelous oxide was obtained by decomposing nickel nitrate at 1100°C on air while cobalt oxide was obtained by thermal dissociation of  $\text{Co}_3\text{O}_4$  at 950° in nitrogen atmosphere. The corresponding ferrites were prepared by a 30-hour annealing of the oxides in a mixture with iron oxide at 1200°C. Acheson graphite which had been annealed at 1100° in vacuo was used as oxidizing agent. Sodium and potassium carbonate were taken in quantities of 1 wt% of the oxide or ferrite, and graphite was taken in a quantity which was three times higher than the amount necessary for the reduction to the metal. The weighed portion was 0.5g of the mixture. ✓

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Effect of Additions of Potassium and Sodium  
Carbonate on the Reduction of Oxides and  
Ferrites of Nickel and Cobalt by Graphite

8/076/50/034/012/007/027  
B020/B067

The reduction of nickelous oxide with graphite at 700°C is delayed as soon as a yield of 50% is attained. In the presence of 1%  $K_2CO_3$  or  $Na_2CO_3$ , the reduction is accelerated and completed. The accelerating effect of potassium and sodium is almost the same. Cobaltous oxide is reduced at higher temperatures than nickelous oxide, and the kinetic curves have no maximum (Fig. 2). The addition of  $K_2CO_3$  or  $Na_2CO_3$  increases the reduction rate at 800°C by many times. In this case the effect of  $K_2CO_3$  is stronger than that of  $Na_2CO_3$ . Also the reduction of nickel ferrite is accelerated by adding the above-mentioned salts. In this case the initial reaction temperature is also reduced (Fig. 3). The accelerating effect of potassium carbonate is higher than that of sodium carbonate. Also the reduction of cobalt ferrite is considerably accelerated by adding the salts. The reduction of nickel ferrite without addition proceeds under the formation of metallic nickel whose lattice parameters gradually increase. During the reduction between 35 and 50% the lattice parameters of the solid solution Ni - Fe do not change. The results of the X-ray structural analysis of

Card 2/3

Effect of Additions of Potassium and Sodium  
Carbonate on the Reduction of Oxides and  
Ferrites of Nickel and Cobalt by Graphite

S/076/60/034/012/007/027  
B020/E067

the reduction products of nickel ferrite show that the phase with spinel lattice, i.e., ferrite, is present in all reaction stages to almost 70%. The phase with NaCl lattice, which in this case corresponds to wüstite or the solid solution of  $\text{Fe}(\text{Ni})\text{O}$ , was first observed in small quantities with a 51% reduction, while it predominates with a 71% reduction. The metallic phase which is formed in the reduction of nickel ferrite with additions is a solid solution of iron in nickel. The change of the lattice parameters of this phase is shown. The phase composition of the solid reduction products and the parameters of the metallic phase indicate that in the reduction of nickel ferrite with additions the number of the Fe-ions which pass into the metallic phase is higher than in the reduction without additions. There are 5 figures and 8 references; 7 Soviet and 1 US.

ASSOCIATION: Ural'skiy filial AN SSSR, In-t metallurgii (Ural Branch of the AS USSR, Institute of Metallurgy)

SUBMITTED: March 10, 1959

Card 3/3

Influence of Carbonates of Alkali Metals and S/020/60/135/002/031/036  
Alkaline Earths on the Reduction of Iron by B016/B052  
Graphite

Rb and Cs salts accelerate the reduction of magnetite considerably. This effect is particularly strong at the beginning of the process. This is explained by the high volatility of Rb and Cs salts which, at 950-990°C, quickly disappear from the reaction zone, as was shown experimentally.  $\text{SrCO}_3$  mainly accelerates the second stage of the process. The effect of  $\text{Li}_2\text{CO}_3$  is low. Fig.2 illustrates the reduction of ferrous oxide by graphite with and without the addition of the four carbonates. In this case, the addition of lithium was also ineffective.  $\text{SrCO}_3$ , however, accelerated the process by a multiple. The character of kinetics remained unchanged.  $\text{Cs}_2\text{CO}_3$ , like  $\text{K}_2\text{CO}_3$ , accelerates the reduction already at the beginning. The process starts at maximum rate and slows down after a 40-50% reduction. Summing up: The accelerating effect of alkali metals on the reduction of iron oxides with graphite increases during the transition from light to heavy metals, and is due to the action of ions of monovalent metals on the electron state in the crystal lattice of iron oxide. The salts of divalent alkaline earths ( $\text{SrCO}_3$ ) mainly

Card 2/3

Influence of Carbonates of Alkali Metals and  
Alkaline Earths on the Reduction of Iron by Graphite

S/020/60/135/002/031/036  
B016/B052

accelerate the reduction of wustite to the metal. This is closely related to the redistribution of electron density in the imperfect structure of wustite. There are 4 figures and 3 Soviet references.

ASSOCIATION: Institut metallurgii Ural'skogo filiala Akademii nauk SSSR  
(Institute of Metallurgy of the Ural Branch of the Academy of Sciences USSR)

SUBMITTED: July 19, 1960

Card 3/3

ZHURAVLEVA, M.G.; CHUFAROV, G.I.; BEAYNINA, D.Z.

Reduction of manganese ferrite by hydrogen and graphite. Dokl.  
AN SSSR 132 no.5:1074-1077 Je '60. (MIRA 13:6)

1. Institut metallurgii Ural'skogo filiala Akademii nauk SSSR,  
2. Chlen-korrespondent AN SSSR (for Chufarov).  
(Manganese ferrate) (Graphite)

ZHURAVLEVA, M.G.; CHUFAROV, G.I.

Reduction of nickelous and cobaltous oxides by graphite. Trudy  
Inst.met.UFAN SSSR no.3:63-66 '59. (MIRA 13:4)  
(Nickel--Metallurgy) (Cobalt--Metallurgy)

81701

S/020/60/132/05/28/069  
B011/B126

5.4110

AUTHORS: Zhuravleva, M. G., Chufarov, G. I., Corresponding Member  
AS USSR, Braynova, D. Z.TITLE: Reduction of Manganese Ferrite by Hydrogen and GraphitePERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 5,  
pp. 1074 - 1077

TEXT: The authors carried out the above reduction by hydrogen in a closed apparatus with gas circulation. The reduction rate of ferrite rises as the reduction progresses and reaches a maximum at about 30-40% oxygen removal (Fig. 1). The reduction then slows down and comes practically to a halt after removal of 75% O<sub>2</sub>. According to X-ray-structural analysis the sample contained metallic iron and manganous oxide.

The use of graphite powder in a vacuum of about 10<sup>-2</sup> mm caused the reduction rate to decrease with progressing process (Fig. 2). The kinetic curve shows a clear minimum at about 25% reduction. The reduction then accelerates a little, only to sink to nil towards the end of the process.

Card 1/3

31701  
Reduction of Manganese Ferrite by Hydrogen and Graphite

S/020/60132/05/28/069  
B011/B126

Graphite completely reduces manganoferrite at 1,000°. The Spinell phase can only be proved for up to 20% reduction. Possible phases here are ferrous oxide, manganese oxide, or their solid solutions. No metallic phase is detectable in this study. Above a 20% reduction there are two phases, the lower oxide and the metal phases. There are solid solutions of stable concentration here. According to the phase diagram of the Mn - Fe system (Ref. 6), the solid  $\gamma$ -solution is stable at 1,000°. X-ray pictures show a predominant quantity of the solid  $\alpha$ -solution, which is formed by cooling the  $\gamma$ -solution. Admixtures of potassium- or sodium carbonates accelerate the reduction of manganoferrite (Fig. 2). A phase with a Spinell-like lattice, similar to that of the ferrite used, is present in an 18.9% reduced sample, but it cannot be proved at 28.9% reduction. A phase with an NaCl-like lattice (which corresponds to the sub-oxide phase of MnO), is present in all samples. Its lattice parameter increases with the percentage of the reduction and approaches the size of the MnO-lattice, without, however, reaching it (Fig. 3). On the basis of these data the authors give a reduction mechanism of manganese-ferrite: when the oxygen is removed, a surplus of metal ions is formed on the surface of the crystal lattice. They can either form a ferrite

Card 2/3

B1701

Reduction of Manganese Ferrite by Hydrogen and Graphite S/020/60/132/05/28/069  
B011/B126

lattice or a metal phase. Which process predominates depends on the ratio of oxygen removal rate to the reaction diffusion. When hydrogen is used for the reduction, the oxygen removal rate is higher than that of the diffusion. When graphite is used for the reduction, both rates are commensurable. The admixtures of alkali metal salts accelerate the chemical interaction of both the reducing compound and of that which is to be reduced. This is related to the variation in the electron condition of the lattice, into which univalent ions penetrate (Ref. 9). There are 3 figures and 9 references: 4 Soviet, 4 American, and 1 German.

ASSOCIATION: Institut metallurgii Ural'skogo filiala Akademii nauk SSSR  
(Institute of Metallurgy of the Ural Branch of the Academy  
of Sciences, USSR)

SUBMITTED: March 14, 1960

Card 3/3

1P.8100

67732

SOV/126-7-3-40/44

AUTHORS: Zhuravleva, L. I. and Noskov, M. M.TITLE: On the Method of Measuring Optical Constants of Metals  
(K metodike izmereniya opticheskikh konstant metallov)PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 7, Nr 3,  
pp 475-476 (USSR)

ABSTRACT: A high-precision variant of the polarimetric method of measuring optical constants of metals was described earlier (Ref 1). Later this variant was improved and used to study invisible surface layers on metals. The latter application is described in the present paper. A monochromatic light beam passed through two mechanically coupled polaroids. The polaroids were replaced by selenium polarizers for measurements in the infrared region. Four mirrors made of the metal investigated were placed between the polaroids in such a way that light was reflected from each of the mirrors at the same angle, whose value was between 45 and 80°. To determine the reduced polarization azimuth  $\psi$  and the phase difference  $\Delta$  between the polarized components ( $\psi$  and  $\Delta$  are necessary to calculate the optical constants), it is sufficient to Card 1/3 carry out measurements at one value of this reflection ✓

47732

SOV/126-7-3-40/44

## On the Method of Measuring Optical Constants of Metals

angle. When the coupled polaroids are uniformly rotated about the optical axis the intensity at the entry slit of a light receiver (a photoelectric photometer) varies with the angle of rotation  $\alpha$  according to

$$y = A + 2B \sin^2 \alpha + C \sin^4 \alpha$$

Between zero and  $90^\circ$  three extrema of  $y$  are observed (they are  $a$ ,  $b$  and  $c$ ). The relationships between  $\psi$  and  $\Delta$  and the values  $a$ ,  $b$  and  $c$  are given by

$$\operatorname{tg} \psi = (a/c)^{1/8}; \cos 4\Delta = \frac{b - \sqrt{(a - b)(c - b)}}{\sqrt{ac}}$$

Here  $a < c$  (i.e.  $\psi < 45^\circ$ ) and  $0^\circ < \Delta < 90^\circ$ . In the presence of films on the metal surface another pair of values  $\psi'$  and  $\Delta'$  is obtained; these, together with  $\psi$  and  $\Delta$ , make it possible to calculate the thickness and the refractive index of the surface layer (Ref 2). *H*

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SOV/126-7-3-40/44

On the Method of Measuring Optical Constants of Metals

If the number of mirrors is less than four, the missing samples are replaced by standard mirrors, e.g. of gold deposited on glass for which the value  $\psi_0$  and  $\Delta_0$

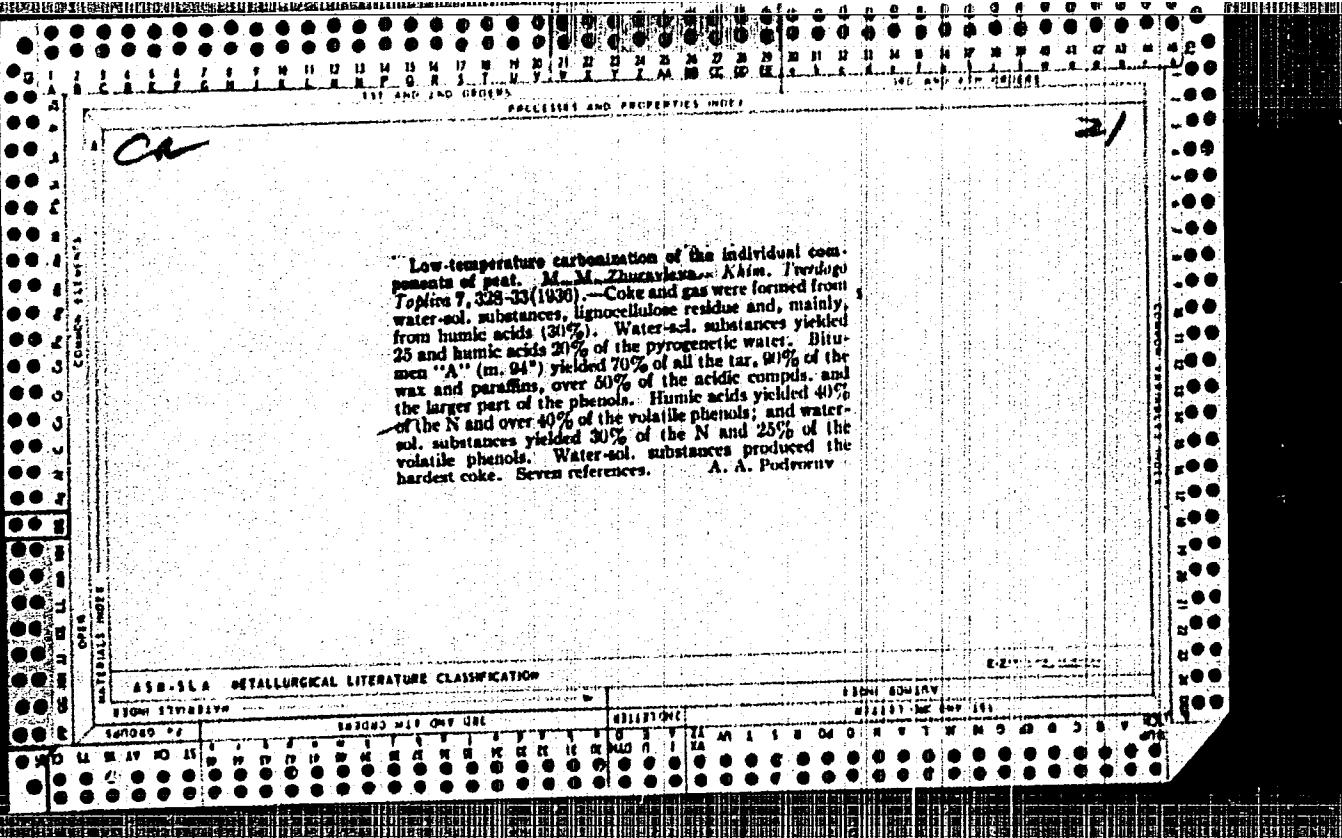
are measured separately. The method can be used to detect and measure thicknesses of very thin film of the order of  $10 \text{ \AA}$ . In vacuo the method can be used to study adsorption of gases on metals. Since no phase compensators are employed the method can be used also to measure the optical constants of metals in the ultraviolet and infrared regions.

There are 2 Soviet references.

ASSOCIATION: Ural'skiy gosudarstvennyy universitet imeni A.M.Gor'kogo  
(Ural State University imeni A.M.Gor'kogo)

SUBMITTED: January 8, 1959

Card 3/3



ZHURAVLEVA, M.M., kandidat tekhnicheskikh nauk; RAKOVSKIY, V.Ye.

Change in wood in the process of becoming solid mineral fuel.  
Trudy Inst.torf. AN BSSR no.2:59-67 '53. (MLRA 8:11)

1. Chlen-korrespondent Akademii nauk BSSR (for Rakovskiy)  
(Wood) (Peat)

ZHURAVLEVA, M. M.

✓ 3864. HUMIC ACIDS. Zhuravleva, M.M. and Kozoroski, V.E. (Trub. Inst. Tsvet. Akad. Nauk Beloruska. SSR [Izvuz. Inst. Tsvet. White Russ. S.S.R.], 1953, vol. 2, 68-79; abstr. in Russ. Minn. (Ref. J. Chem., Moscow), 1955, (21), 4998). The composition was examined of humic acids extracted from various peats and the following peat-forming materials: birch leaves, pine, birch, pine and yew wood and lignite from brown coal. Determinations were made of the concentration of humic acids in the original material and their concentration in them of ash, acid radicals, and of carboxyl and hydroxyl radicals. There are considerable differences between humic acids from different vegetable species. Separation of 20 humic acid from one of the peats, after treatment in stages with alkali and precipitation with acid, showed that humic acids from peat consist of hydroxycarboxylic acids of different structures, mostly containing carboxyl radicals.

(1)

Can't Test See

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065020019-6

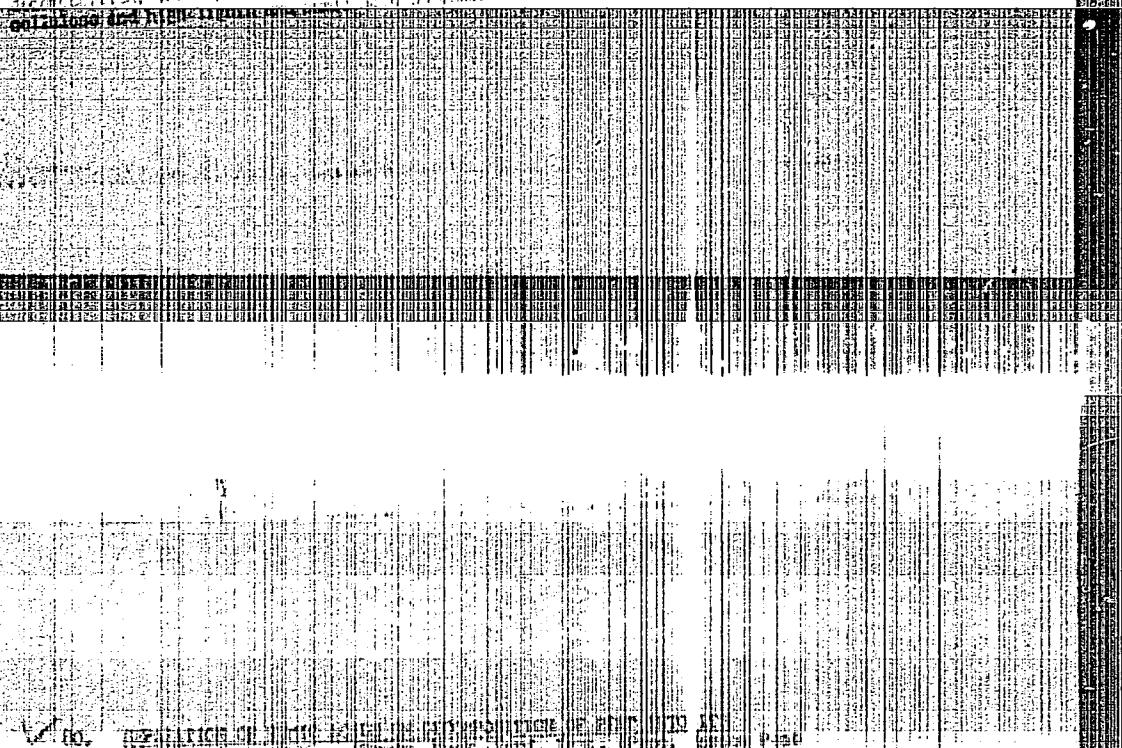
General

✓ 103. GENERAL DIRECTORATE OF PLANNING AND DEVELOPMENT  
Reps Ind., Moscow, May 1960. And [redacted] not yet 1960  
[redacted] & [redacted] more [redacted] [redacted] [redacted] [redacted]

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065020019-6"

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CIA-RDP86-00513R002065020019-6

ХИМИЧЕСКОЕ ПРЕОБРАЗОВАНИЕ  
ГУХОВЫХ ТОПЛИН

Д. Е. ГРЯЗНОВ, И. Н. ЖИГАЛЕВА, В. С. ПОЛЯРН

М. А. РАССОЯН, Е. Е. СИДОРЕНКО, В. А. БАЙДА

VIII Mendeleev Congress for General and Applied Chemistry in  
Section of Chemistry and Chemical Technology of Fuels,  
publ. by Acad. Sci. USSR, Moscow 1979

Abstracts of reports scheduled to be presented at above mentioned congress,  
Moscow, 15 March 1979.

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R002065020019-6"

BERLINER, M.A., kand. tekhn. nauk, red.; ZHURAVLEVA, M.N., red.izd-va; EL'KIND, V.D., tekhn. red.

[Automation of drying processes in industry and agriculture]  
Avtomatizatsiya protsessov sushki v promyshlennosti i sel'skom khoziaistve; sbornik statei. Moskva, Mashgiz, 1963.  
290 p. (MIRA 17:2)

MALIS, Avram Yakovlevich; DEMIDOV, Aleksey Romanovich; KOZJUKHOVSKIY,  
I.Ye., kand. tekhn.nauk, retsenzent; ZHURAVLEVA, M.N., red.  
izd-va; CHERNOVA, Z.I., tekhn. red.; GORDEYEVA, L.P., tekhn.  
red.

[Machines for grain cleaning by the aerodynamic method] Ma-  
shiny dlia ochistki zerna vozдушным потоком. Moskva,  
Mashgiz, 1962. 175 p. (MIRA 16:8)

(Grain--Cleaning)

MURAVLEVA, N. N.

Dissertation: "A Study of the Stone Fruits of the L'vov Region as Marketable Products." Cand Tech Sci, Moscow Institute of National Economy imeni G. V. Plekhanov, 30 Jun 54. (Vechernaya Moskva, Moscow, 22 Jun 54)

SO: SUM 318, 23 Dec 1954

ZHURAVLEVA, M.N.

USSR /Chemical Technology. Chemical Products  
and Their Application

I-32

Food industry

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 32991

Author : Zhuravleva M. N.

Inst : L'vov Institute of Commerce and Economics.

Title : Chemical Composition of Drupes of the L'vov  
Oblast' and Their Suitability for Processing

Orig Pub: Nauch. zap. L'vovsk. torgovo-ekon. in-t, 1956,  
No 2, 169-181

Abstract: Most varieties of cherries have fruit weighing  
4.0-6.5 g. The investigated varieties contain  
(in %): 9.57-16.04 sugars, 0.21-0.47 pectic

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USSR /Chemical Technology. Chemical Products  
and Their Application

I-32

Food industry

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 32991

substances, 0.45-0.97 nitrogenous substances,  
0.16-0.32 cellulose, 0.26-0.43 ash (in pulp),  
3.85-12.80% ascorbic acid; the acidity is of  
0.33-0.63 %. The best varieties of cherries are  
Gedel'finger, Black Late, Pink Napoleon, Gros  
Noir, Large Pink and Mokrotinka. Best varieties  
of red cherries are Griot Podbel'skiy, Griot  
Ukrainian and Shpanka. The plums contained  
(in %) 7.37-32.36 sugars, 0.10-0.27 tannins,  
0.65-1.20 pectic substances, 0.39-0.90 nitro-  
geneous substances, 0.31-0.54 cellulose, 0.22-  
0.56 ash, 2.09-10.38 mg% ascorbic acid; acidity  
0.63-1.68%. Best varieties of plums are Green

Card 2/3

USSR /Chemical Technology. Chemical Products  
and Their Application

I-32

Food industry

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 32991

Reine Claude, Kirke, Al'tan Reine Claude, Ven-  
gerka Ital'yanskaya, Livanka, Ullens Reine Claude  
and Vengerka Byul'skaya. Stewed fruit prepara-  
tions made from drupes of the L'vov Oblast' are  
characterized by a good blending of sugars and  
acids.

Card 3/3

ANIKINA, M.Kh.; GOGITIDZE, O.N.; ZHURAVLEVA, M.S.; KOZLOV, A.A.;  
KOTLYAREVSKIY, D.M.; MANDZHAVIDZE, Z.Sh.; MESTVIFISHVILI, A.N.;  
NYAGU, D.; OKONOV, E.O.; PETROV, N.I.; ROZANOVA, A.M.;  
RUSAKOV, V.A.; TAKHTAMYSHEV, G.G.; CHKHAIIDZE, L.V.; U TSZUN-FAN'  
[Wu Tsung-fan]; TSERELOV, A.A.

Observation of  $K^0 \rightarrow \pi^+ + \pi^- + \pi^0$  decays. Zhur. eksp. i  
teor. fiz. 45 no.3:469-473 S. 163. (MIRA 16:10)

1. Ob'yedinenyy institut Yadernykh issledovaniy i Institut  
fiziki AN Gruzinskoy SSR.  
(Photography, Particle track) (Mesons)

ANIKINA, M.Kh.; ZHURAVLEVA, M.S.; KOTLYAREVSKIY, D.M.; MANDZHAVIDZE, Z.Sh.;  
MESTVIRISHVILI, A.N.; NYAGU, D.V.; OKONOV, E.O.; PETROV, N.I.;  
RUSAKOV, V.A.; TAKHTAMYSHEV, G.G.; CHKHAIDZE, L.V.; U TSZUN-FAN'  
[Wu Tsung-fan]

Estimation of the relative probability of  $K^0 \rightarrow 3\pi^0$  decay.  
Zhur. eksper. i teor. fiz. 46 no.1:59-66 Ja'64. (MIRA 17:2)

1. Ob'yedinennyj institut Yadernykh issledovaniy i Institut  
fiziki AN Gruzinskoy SSR.

ACCESSION NR: AP4012523

S/0056/64/046/001/0059/0066

AUTHORS: Anikina, M. Kh.; Zhuravleva, M. S.; Kotlyarevskiy, D. M.; Mandzhavidze, Z. Sh; Mestvirishvili, A. N.; Nyagu, D. V.; Okonov, E. O.; Petrov, N. I.; Rusakov, V. A.; Takhtamyshev, G. G.; Chkhaidze, L. V.; Wu, Tsung-fan

TITLE: Estimate of the relative possibility of the  $K_2^0 \rightarrow 3\pi^0$  decay

SOURCE: Zhurnal eksper. i teoret. fiz., v. 46, no. 1, 1964, 59-66

TOPIC TAGS:  $K_2^0$  decay, Dalitz pair, neutral kaon decay, CP invariance, selection rules,  $V^0$  event, ionization selection rule

ABSTRACT: Continuing an earlier investigation (D. V. Nyagu, E. O. Okonov, N. I. Petrov, A. M. Rozanova, and V. A. Rusakov, ZhETF v. 40, 1618, 1961), the authors registered the  $K_2^0 \rightarrow 3\pi^0$  decay by the Dalitz pairs observed in a one-meter cloud chamber placed in a beam of neutral particles from a proton synchrotron, using an experimental

Card 1/3

ACCESSION NR: AP4012523

setup described earlier (ZhETF v. 45, 469, 1963). Applying more stringent selection rules, they found the ratio of the probability of the  $K_2^0 \rightarrow 3\pi^0$  decay to the probability of all  $K_2^0$  meson decays to be  $(0.24 \pm 0.08)$ . "We thank the proton synchrotron crew, whose precise work enabled us to set up the project. We are deeply grateful to B. M. Pontecorvo who called attention to the possibility of investigating  $K_2^0 \rightarrow 3\pi^0$  decay by means of Dalitz pairs and for numerous discussions. We are grateful to E. L. Andronikashvili, V. I. Veksler, and V. P. Dzhelepov for collaboration, and also to the group of laboratory assistants and particularly student Yu. Luksty\*n'sh of Riga University for participating in the measurements." Orig. art. has: 2 figures, 1 formula, and 1 table.

ASSOCIATION: Ob"yedinenny\*y institut yaderny\*kh issledovaniy (Joint Institute of Nuclear Research), Institut fiziki AN GruzSSR

Card 2/3

ACCESSION NR: AP4012523

(Physics Institute, AN GruzSSR)

SUBMITTED: 10Jul63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 004 OTHER: 006

Card 3/3

L 19639-63

EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3007064

S/0056/63/045/003/0469/0473

AUTHORS: Anikina, M. Kh.; Gogitidze, O. N.; Zhuravleva, M. S.; <sup>46</sup>  
Kozlov, A. A.; Kotlyarevskiy, D. M.; Mandzhavidze, Z. Sh.; Mestvir-  
ishvili, A. N.; Nyagu (Neagu), D.; Okonov, E. O.; Petrov, N. I.;  
Rozanova, A. M.; Rusakov, V. A.; Takhtamyshev, G. G.; Chkhaidze,  
L. V.; Wu Tsung-fan; Tserelov, A. A.

TITLE: Observation of the decays  $K_2^0 \rightarrow \pi^+ + \pi^- + \pi^0$

SOURCE: Zh. eksper. i teoret. fiziki, v. 45, no. 3, 1963, 469-473

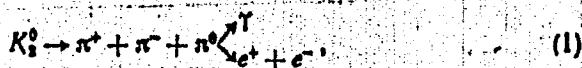
TOPIC TAGS: neutral kaon decay, four charged particle decay, decay probability, proton synchrotron, cloud chamber

ABSTRACT: Four decays of long-lived  $K^0$  mesons with concomitant emission of four charged particles have been observed in a cloud chamber bombarded by a neutral particle beam from the OIVAN (Joint Inst. of Nuc. Research) proton synchrotron. All four events are identified

Card 1/3

L 19639-63  
ACCESSION NR: AP3007064

as the decays



An estimate of the probability of the decay  $K_2^0 \rightarrow \pi^+ + \pi^- + \pi^0$  relative to all  $K_2^0$  decays involving secondary particles yields a value  $0.08 \pm 0.04$ . "In conclusion, the authors express their gratitude to engineers N. Rusishvili and A. Yu. Shtayerman of the Physics Institute of the Georgian Academy of Sciences, who participated in the construction and adjustment of the cloud chamber. The authors are also grateful to the proton cyclotron crew and to the group of laboratory assistants. The authors are most grateful to V. I. Veksler and B. M. Pontecorvo for interest in the work and for numer-

Card 2/3

L 19639-63

ACCESSION NR: AP3007064

ous discussions, as well as to E. L. Andronikashvili and V. P. Dzheleopov for interest and collaboration." Orig. art.: has: 1 figure, 2 formulas, and 2 tables.

ASSOCIATION: Ob'yedinenny'y institut yaderny'kh issledovaniy (Joint Institute of Nuclear Research); Institut fiziki Akademii nauk Gruzinskoy SSR (Physics Institute, Academy of Sciences, Georgian SSR)

SUBMITTED: 02Apr63

DATE ACQ: 08Oct63

ENCL: 00

SUB CODE: PH

NO REF SOV: 002

OTHER: 003

Card 3/3

ZURAVIEVA, K. V.

Dissertation: "The Absorption of Mineral Nutritive Substances by Tree Seedlings." Cand Biol Sci, Inst of Plant Physiology imeni K. A. Timiryazov, Acad Sci USSR, Moscow, Oct-Dec 53. (Vestnik Akademii Nauk, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

RUMANIA/Plant Physiology. Mineral Nutrition

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 86661

Author : Aihromeyko A.L., and Zhuravleva M.V.

Inst : -

Title : One in a Collection of Articles on "The Application of Isotopes in Agrochemical and Soil Research" The Absorption of Mineral Nutrients in the Roots of Wood Plants

Orig Pub : AS USSR Press, 1955, pp 188-241

Abstract : No abstract

Card : 1/1

USSR/Physiology of Plants. Water Regimen

I-3

Abs Jour : Ref Zhur-Biologiya, No 2, 1958, 5666

Abstract : 15 min. on sunny days and 60 min. on cloudy days. Conclusions on the rapidity of the water flow were made on the basis of substances absorbed by the stem and leaves at definite periods of time. The rapidity of the flow in the xylem fluctuated between 0 to 10cm per minute in different kinds of trees; at an air temperature of 23-26° and with good light it was approximately twice as high as that at the temperature of 10-11° and poor light. The rapidity of the movement of heavy water and P<sup>32</sup> was almost the same. During the summer months a reverse relationship between the moisture in the leaves and the rapidity of the water flow was established. In the evening and at the termination of the vegetation period the rapidity of the water flow considerably dropped.

Card 2/2

ZHURAVLEVA, M.V. (Moskva)

Cicatricial keloids of the skin following burns. Arkh. pat. 27  
no.6:34-40 '65. (MIRA 19:1)

1. Otdel patologicheskoy anatomi (zav. - prof. D.S. Sarkisov)  
Instituta khirurgii imeni A.V. Vishnevskogo (direktor - deyst-  
vitel'nyy chlen AMN SSSR prof. A.A. Vishnevskiy) AMN SSSR i  
Institut morfologii cheloveka (direktor - deystviteльnyy chlen  
AMN SSSR prof. A.P. Avtayn) AMN SSSR. Submitted February 18,  
1964.

POLOTSKAYA, Ye.L., kand.med.nauk; ZHURAVLEVA, M.V.

Concerning the correlation of the Schoenlein-Henoch disease  
with rheumatic fever. Vop.revm. 3 no.1:79-82 Ja-Mr '63.  
(MIRA 16:4)

1. Iz terapevcheskogo otdeleniya (zav. - doktor med.nauk  
T.I.Meyerzon) Moskovskoy gorodskoy bol'nitsy No.22 (glavnnyy  
vrach M.Ye.Glinka) i patologoanatomiceskogo otdeleniya (zav. -  
kand.med.nauk N.N.Pokrovskaya) gorodskoy klinicheskoy  
bol'nitay No.5 (glavnnyy vrach L.I.Erman), Moskva.  
(COLLAGEN DISEASES)

ZHURAVLEVA, M.V.; PAVLOVA, I.V.; SVININNIKOV, S.G. (Moskva)

Results of active outpatient service for alcoholics in the  
collective of an industrial plant. Trudy Gos. nauch.-issl.  
inst. psikh. 38:302-305 '63 (MIRA 16:11)

AKHROMEYKO, A.I.; ZHURAVLEVA, M.V.; SAVINA, A.V.

Effect of gibberellin on growth and translocation of substances  
in arboraceous plants. Izv. AN SSSR. Ser. biol. 26 no.1:79-82  
Ja-F '61. (MIRA 14:3)

1. Laboratory of Physiology, the Union Institute of Forestry  
and Mechanization, Pushkin city, Moscow District.  
(GIBBERELLINS) (TREES-PHYSIOLOGY)  
(PLANTS, MOTION OF FLUIDS IN)

TIKHOMIROV, V.S.; TIKHOV, G.A., redaktor; ZHURAVLEVA, N., redaktor.

[Seasonal changes in certain reflective properties of plants and the problem of vegetation on Mars] Sezonnye izmeneniia nekotorykh otzashatel'nykh svoistv rastenii i vopros o raastitel'nosti na Marse. Alma-Ata, Izd-vo Akademii nauk Kazakhskoi SSR, 1951. 102 p.  
(MLRA 7:9)

1. Deystvitel'nyy chlen AN Kaz. SSR (for Tikhov)  
(Color of plants) (Plurality of worlds) (Mars(Planet)--Plante))

ZHURAVLEVA, N.A.

Contamination of equipment surfaces and employees' hands by  
Escherichia coli in eating establishments. Gig. i san. 25  
no. 6:102 Je '60. (MIRA 14:2)

1. Iz sanitarno-epidemiologicheskoy stantsii Tashkentskogo  
zheleznodorozhnogo uza.  
(RESTAURANTS, LUNCHROOMS, ETC.—SANITATION)  
(ESCHERICHIA COLI)

MAKSUMOV, S.S.; SARSIS'YANTS, S.L.; HEREMET'YEV, N.N.; CHIKHERIN, P.I.;  
ZAPROMETOVA, L.V.; ZHURAVLEV, N.A.

Virusological characteristics of the outbreak of poliomyelitis in  
Tashkent in 1959. Vop. virus. 7 no.2:239 Mr-Ap '62. (MIRA 15:5)

1. Tashkentskiy nauchno-issledovatel'skiy institut vaktsin i syvorotok.  
(TASHKENT--POLIOMYELITIS)

S/135/61/000/003/014/014  
A006/A001

AUTHOR: Zhuravleva, N. A., Engineer

TITLE: Conference on the Production of Electrodes for Resistance Welding Machines

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 3, p. 44

TEXT: The Conference on the production of electrodes for resistance welding machines was convened in Leningrad from October 20 - 22, 1960 by the All-Union Scientific Research Institute of Electric Welding Equipment (VNIIESO). The Conference heard the following reports: S. K. Sliczberg, VNIIESO, on "The State and Outlooks of Developing Electrodes for Resistance Welding Machines"; Professor M. V. Zakharov on investigations carried out at the Moskovskiy institut tsvetnykh metallov i zolota imeni M. I. Kalinina (Moscow Institute of Non-Ferrous Metals and Gold imeni M. I. Kalinin) for developing alloys for electrodes of resistance welding machines; engineer N. A. Kozlov, Sverdlovsk NIIMash, on the work performed for determining the relative durability of copper and 5p. X (Br. Kh), MU-4 (MTs-4) and MU-5B (MTs-5B) electrodes for welding carbon steel on spot and seam welding machines, and of durability of copper and MU-2 (MTs-2) alloy

Card 1/3

S/13;61/000/003/014/014  
A006/A001

Conference on the Production of Electrodes for Resistance Welding Machines

electrodes on butt welding machines; engineer M. V. Demchenkov, Moskovskiy avtozavod imeni Likhacheva (Moscow Automobile Plant imeni Likhachev) on "The Manufacture of Electrodes by Cold-Heading"; engineer L. U. Manchinskiy, VNTIESO, on "Normalization of Electrodes for Resistance Welding Machines"; engineer V. S. Sergeyev, NIAT, on "Electrode Materials for Resistance Welding Machines"; engineer L. M. Mirkina, VNTIESO, on determining the durability of spot-welding electrodes of various alloys on carbon and stainless steels; engineer S. O. Libo on determining the durability of spot welding electrodes; engineer V. I. Brabets on the manufacture and testing of experimental МЦ (MTs) alloys during 1957-58 at the Kamensk-Ural'sk Plant for Processing Non-Ferrous Metals; engineer S. K. Ginzburg on criteria of durability and investigations of softening of electrodes during welding; engineer I. S. Fedorov, on the production and use of electrodes at the Gor'kiy Automobile Plant; engineer Ye. F. Trekin, Uralvagonzavod, on results of testing the durability of electrode alloys on spot and seam welding machines; engineer A. I. Vlasov on the development of high-strength and electro-conductive cermet alloys at the Moskovskiy institut tverdykh splavov (Moscow Institute of Hard Alloys); engineer N. N. Postnikov, Candidate of Technical

Card 2/3

S/135/61/000/003/014/014  
A006/A001

Conference on the Production of Electrodes for Resistance Welding Machines

Sciences D. G. Butumo, engineer V. L. Bereslavskiy and others delivered a number of brief reports. The Conference decided to speed up the organization of a centralized production of electrodes, and to use MTs-5B, MTs-2 and Br.Kh alloys in heat treated state for electrodes of resistance welding machines.

Card 3/3

ZHURAVLEVA, N.A., inzh.

Conference on the manufacture of electrodes for resistance welding  
machines. Svar.proizv. no. 5146 My '65.

(MIRA 18:6)

ZHURAVLEVA, N. A.

ZHURAVLEVA, N. A. -- "Synthesis and Polymerization of Pure Allyl Esters." Sub 31  
Dec 52, Moscow Order of Lenin Chemicotechnological Inst imeni D. I. Mendeleyev  
(Dissertation for the Degree of Candidate in Technical Sciences)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

~~ZHURAVLEVA, N.A.~~

135-58-6-11/19

AUTHORS: Sliozberg, S.K., Candidate of Technical Sciences; and Zhuravleva, N.A., Engineer

TITLE: Flash Butt Welding of Brass (Stykovaya svarka oplavleniyem latuni)

PERIODICAL: Svarochnye Proizvodstvo, 1958, Nr 6, pp 33-34 (USSR)

ABSTRACT: The article presents results of experimental studies carried out at VNIESO. The developed welding technology for brasses "L62" and "LS59-1" is given in detail. Microstructure of the two brass grades in and at the welded joints is described and illustrated. This process is recommended for practical use. G.Ya. Filimonov of the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnical Institute) participated in developing the welding technology for "LS59-1" brass. There are 7 photographs and 1 chart.

ASSOCIATION: VNIESO

AVAILABLE: Library of Congress  
Card 1/1

ZHURAVLEVA, N. I. (Tomsk)

Vascular glomus (Barre-Masson) tumor. Klin. med. no. 9:134-135  
'61. (MIFB 15:6)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. B. A.  
Al'bitskiy) Tomskogo meditsinskogo instituta.

(HAND-TUMORS)

ZHURAVIEVA, N.A., inzh.

Sixteenth Leningrad conference of welders on the results  
of welding research and operations. Symp. prel', no.31  
45 Ag '65. (MIRE 1948)

ZHURAVLEVA, N.T.

OVCHINNIKOV, B.N.; VERESHCHAGIN, A.N.; ZHURAVLEVA, N.T.

[Combatting corrosion in refining sulfurous petroleum] Bor'ba  
s korroziей pri pererabotke sernistoi nefti. Moskva, Gos.nauchno-  
tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1954. 75 p.

(MLRA 7:3)

(Corrosion and anticorrosives) (Petroleum--Refining)

Evaluation B-82076, 17 Jun 55

TOMING-REYNTAM, Y.M. [Toming-Reintam, O.], kand.med.nauk; ZHURAVLEVA, N.G.

Protistocid properties of bee honey collected from various flowers  
and the treatment of trichomonal colpitis. Akush.i. gin. no.5:  
106-108 '61. (MIRA 15:1)

1. Iz vrachebno-sanitarnoy sluzhby (nach. M.A. Ugol'nikova)  
Estonskoy zheleznoy dorogi, Tallin.  
(TRICHOMONIASIS) (HONEY--THERAPEUTIC USE)  
(VAGINA--DISEASES)

ZHURAVLEVA, N.I.

Experience in the use of peridural anesthesia. Khirurgija 39  
no.7:93-99 Jl'63 (MIRA 16:12)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. B.A.  
Al'betskiy Tomskogo meditsinskogo instituta.

ZHURAVLEVA, N.I.

Peridural anesthesia in association with neuroplegia. Vest.khir.  
86 no.3:90-94 Mr '61. (MIRA 14:3)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - dotsent  
B.A. Al'bitskiy) Tomskogo meditsinskogo instituta.  
(SPINAL ANESTHESIA) (ARTIFICIAL HIBERNATION)  
(ABDOMEN—SURGERY)

ROZENFEL'D, D.B.; GOLUBINSKAYA, K.P.; ZHURAVLEVA, N.M.; SEMENOVA, I.P.;  
RYURIKOVA, L.N.; GUL'DYASHEVA, T.A.

Rapid laboratory diagnosis of colienteritis with the use of TTC  
bouillon. Lab. delo 10 no.4:234-236 '64. (MIRA 17:5)

1. Sanitarno-bakteriologicheskiye laboratori sanitarno-epidemiolo-  
gicheskikh stantsiy Podol'ska, Noginska, Klina, Zagorska, Pushkino  
Moskovskoy oblasti.

ZHURAVLEVA, N.V.

Sputum microflora of patients with chronic pneumonia and its resistance  
to antibiotics. Antibiotiki 9 no.3:280-283 Mr '64.

1. Leningradskiy nauchno-issledovatel'skiy institut antibiotikov. (MIRA 17:12)

ZEMSKOV, M.V.; IGNAT'YEVA, S.A.; MOROZOVA, V.P.; STEPANOV, I.I.; ZHURAVLEVA, N.V.

Yeast-induced production of antibodies, resistance and plasmolytic reaction in animals. Zhur.mikrobiol., epid. i immun. 42 no.3:130-133 Mr '61. (MIRA 18:6)

1. Voronezhskiy meditsinskij institut.

ZHURAVLEVA, N. V.

"Antagonism as a Factor in the Mutability of Microorganisms." Cand Med  
Sci, Gor'kiy Medical Inst, Gorkiy, 1954. (RZhBiol, No 2, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher  
Educational Institutions (12)  
SO: Sum. No. 556, 24 Jun 55

SOKOLOV, B.V.; ZHURAVLEVA, N.V.

Method for verifying the antiviral activity of culture liquids;  
preliminary report. Eksp. i klin. issl. po antibiot. 1:127-130  
158. (MIRA 15:5)

(BACTERIOLOGY--CULTURES AND CULTURE MEDIA)  
(INFLUENZA--MICROBIOLOGY)

ZHURAVLEVA, N.V.

Preservation of the virulence of Hemophilus pertussis in laboratory  
conditions. Eksp. i klin. issl. po antibiot. 1:154-162 '58.  
(MIRA 15:5)

(HEMOPHILUS PERTUSSIS)

KOKUSHINA, T.M.; SHTEYNLUKHT, L.A.; ZHURAVLEVA, N.V.

Some immunological changes in pyodermitites during antibiotic treatment. Eksp. i klin. issl. po antibiot. 2:69-75 '60.

(MIRA 15:5)

(SKIN--DISEASES) (ANTIBIOTICS) (IMMUNOHEMATOLOGY)

ZHURAVLEVA, N.V.

Effect of some antibiotics on the phagocytosis of microbes. Eksp.  
i klin. issl. po antibiot. 2:178-182 '60. (MIRA 15:5)  
(ANTIBIOTICS) (PHAGOCYTOSIS)

ZEMSKOV, M.V. & ZHURAVLEVA, N.V.

Mechanism of the stimulation of antibody formation, immunogenesis  
and resistance to infection by means of bloodletting. Zhur.  
mikrobiol., epid. i immun. 42 no. 10c134 0 '65.

(MIRA 18:11)

1. Voronezhskiy meditsinskiy institut. Submitted January 5,  
1965.

ZHURAVLEVA, P.A.; SAPOZHNIKOVA, S.A., doktor geograficheskikh nauk,  
redaktor; ORLOVA, V.P., redaktor; PAVLOVA, N.N., tekhnicheskii  
redaktor.

[ "Hydrometeorology" pavilion; guidebook] Pavil'on Gidrometsluzhba;  
putevoditel'. Moskva, Gos.izd-vo sel'skokhoz.litpry', 1955. 32 p.  
(MLIA 8:8)

1. Moscow. Vsesoyuznaya sel'skokhozyaystvennaya vystavka, 1954.  
(Moscow--Meteorology--Exhibitions)